

10/511924

Rec'd PCT/PTO 18 OCT 2004

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
30 October 2003 (30.10.2003)

PCT

(10) International Publication Number
WO 03/089991 A2(51) International Patent Classification⁷: G03F 7/00,
7/032, 7/033, 7/038, 7/075

(21) International Application Number: PCT/EP03/04231

(22) International Filing Date: 18 April 2003 (18.04.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/125,508 19 April 2002 (19.04.2002) US(71) Applicant (for all designated States except US): VAN-
TICO AG [CH/CH]; Klybeckstrasse 200, CH-4057 Basel
(CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): JOHNSON, David,
Lanham [US/US]; 5121 San Fernando Road West, Los
Angeles, CA 90039-1011 (US). FONG, John, Wai
[US/US]; 5121 San Fernando Road West, Los Angeles,
CA 90039-1011 (US).(74) Agents: HEDLEY, Nicholas, James, Matthew et al.; Kil-
burn & Strode, 20 Red Lion Street, London WC1R 4PJ
(GB).(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that reportFor two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PHOTOCURABLE COMPOSITIONS CONTAINING REACTIVE PARTICLES

(57) Abstract: A photocurable composition, including (a) a photocurable monomer, e.g. a cationically curable monomer and/or a radically curable monomer; (b) reactive particles comprising a crosslinked elastomeric core, e.g. made of polysiloxane material, and a shell of reactive groups on an outer surface of the core, wherein the reactive groups comprise epoxy groups, ethylenically unsaturated groups, or hydroxy groups; and (c) an appropriate photoinitiator, e.g. a radical photoinitiator; and a cationic photoinitiator. A method of making a 3-D object from such a composition and a 3-D object made by the method are also provided. The cured composition generally has a smooth surface. The use of the reactive particles makes the composition more stable and the particles do not readily separate out.

WO 03/089991 A2